

- A) State how many zeros the function has.
- B) Sketch the general shape of the graph.
- C) List all the possible zeros.
- D) Write a linear factorization of the function.
- E) State all of the zeros for the function.

1. $f(x) = x^4 - 3x^2 - 4$

A)

B)

C)

D)

E)

2. $f(x) = x^2 - x - 56$

A)

B)

C)

D)

E)

3. $f(x) = 3x^3 - 5x^2 + 48x - 80$

A)

B)

C)

D)

E)

4. $f(x) = x^4 - 4x^3 + 8x^2 - 16x + 16$

A)

B)

C)

D)

E)

5. $f(x)=x^2-14x+46$

A)

B)

C)

D)

E)

6. $f(x) = x^4 + 25x^2 + 144$

A)

B)

C)

D)

E)

*7. Divide using synthetic division. $(5x^3 + 18x^2 + 7x - 6) \div (x + 3)$

*8. Use long division to divide $(7x^3 + 3)$ by $(x + 2)$.